

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A functional monitoring system, comprising:

a transmitting and receiving station configured to transmit an interrogation code signal; and

a plurality of transponders each configured to receive the interrogation code signal and, upon receiving the interrogation code signal with a response instruction, to respond to the interrogation code signal upon receiving the interrogation code signal by generating and simultaneously transmitting, with all transponders and in temporal synchronization, a complete response code signal to said transmitting and receiving station, wherein a matching, complete response code signal received by said transmitting and receiving station triggers an access authorization by the functional monitoring system.

Claim 2 (original): The functional monitoring system according to claim 1, wherein said transmitting and receiving station is selectively configured to transmit the

interrogation code signal at regular intervals, at irregular intervals, or as a reaction to a triggering event.

Claim 3 (previously presented): The functional monitoring system according to claim 1, wherein each of said transponders includes a synchronization device effecting a synchronization of a transponder operation with the interrogation code signal received by said transponder, such that the response code signals of said transponders are transmitted in synchronization.

Claim 4 (original): The functional monitoring system according to claim 3, wherein said synchronization device effects a synchronization of the transponder operation to a code signal sequence transmitted with the interrogation code signal.

Claim 5 (previously presented): The functional monitoring system according to claim 3, wherein said synchronization device effects a synchronization of a transmission code signal generation of said plurality of transponders.

Claim 6 (original): The functional monitoring system according to claim 1, wherein at least one of said transponders contains a subcarrier frequency generator for

generating a subcarrier frequency signal, assigned to said transponder, for modulation of a carrier frequency signal common to all of said transponders.

Claim 7 (original): The functional monitoring system according to claim 6, wherein said transponder comprises a carrier frequency generator generating a carrier frequency signal, a first modulator for modulating the subcarrier frequency signal generated by said subcarrier frequency generator with a code signal, and a second modulator for modulating the carrier frequency signal generated by said carrier frequency generator with the output signal output by said first modulator.

Claim 8 (original): The functional monitoring system according to claim 6, wherein said transmitting and receiving station comprises a plurality of input channels with filters for filtering out frequency components caused by the subcarrier frequency signal.

Claim 9 (original): The functional monitoring system according to claim 1, wherein each of said plurality of transponders contains a subcarrier frequency generator for generating a subcarrier frequency signal, assigned to the

respective said transponder, for modulation of a carrier frequency signal common to all of said transponders.

Claim 10 (original): The functional monitoring system according to claim 9, wherein each of said transponders comprises a carrier frequency generator generating a carrier frequency signal, a first modulator for modulating the subcarrier frequency signal generated by said subcarrier frequency generator with a code signal, and a second modulator for modulating the carrier frequency signal generated by said carrier frequency generator with the output signal output by said first modulator.

Claim 11 (original): The functional monitoring system according to claim 9, wherein said transmitting and receiving station comprises a plurality of input channels with filters for filtering out frequency components caused by the subcarrier frequency signal.

Claim 12 (original): The functional monitoring system according to claim 1, wherein said transmitting and receiving station forms a part of an access control system.

Claim 13 (original): The functional monitoring system according to claim 1, wherein said transmitting and receiving station is mounted at a motor vehicle and the monitoring system is a motor vehicle access control system.

Claim 14 (currently amended): A method of operating a functional monitoring system having a transmitting and receiving station and a plurality of transponders, the method which comprises:

transmitting an interrogation code signal with a transmitting and receiving station; and

~~simultaneously, in temporal synchronization,~~ responding with each of a plurality of transponders ~~receiving~~ having received the interrogation code signal by each transmitting a complete response code signal; and

upon receiving a matching, complete response code signal with  
the transmitting and receiving station, enabling access with  
the functional monitoring system.

Claim 15 (original): The method according to claim 14, which comprises transmitting the interrogation code signal at regular time intervals.

Claim 16 (original): The method according to claim 14, which comprises transmitting the interrogation code signal at irregular time intervals.

Claim 17 (original): The method according to claim 14, which comprises transmitting the interrogation code signal as a reaction to a triggering event.

Claim 18 (previously presented): The method according to claim 14, which comprises synchronizing the transponders for transmitting the response code\_signal in synchronization.

Claim 19 (previously presented): The method according to claim 14, which comprises generating the respective response signals by double modulation with an initial modulation of a subcarrier frequency signal with a response code signal and a subsequent modulation of a carrier frequency signal, common to all of the transponders, with the modulation output signal obtained in the initial modulation.

Claim 20 (original): The method according to claim 19, which comprises evaluating with the transmitting and receiving station the frequency components caused by the subcarrier frequency signals of the individual transponders in different channels.

Claim 21 (new): A motor vehicle access control system,  
comprising:

a transmitting and receiving station mounted to the motor vehicle and configured to transmit an interrogation code signal;

a plurality of transponders each configured to receive the interrogation code signal and, upon receiving the interrogation code signal, to respond to the interrogation code signal by generating and simultaneously transmitting, with all transponders and in temporal synchronization, a complete response code signal to said transmitting and receiving station, wherein a matching, complete response code signal received by said transmitting and receiving station triggers an access authorization to the motor vehicle.

Claim 22 (new): The access control system according to claim 21, wherein at least one of said transponders contains a subcarrier frequency generator for generating a subcarrier frequency signal, assigned to said transponder, for modulation of a carrier frequency signal common to all of said transponders.

Appl. No. 09/592,224  
Amdt. Dated March 16, 2004  
Reply to Office Action of Dec. 16, 2003

Claim 23 (new): A method of operating a motor vehicle access control system having a transmitting and receiving station and a plurality of transponders, the method which comprises:

transmitting an interrogation code signal with the transmitting and receiving station;

responding with each of a plurality of transponders within range and having received the interrogation code signal by each transmitting a complete response code signal; and

upon receiving a matching, complete response code signal with the transmitting and receiving station, enabling access to the motor vehicle.